MEDICINE INFORMATION

R-CEOP (rituximab, cyclophosphamide, etoposide, vincristine and prednisolone)

A guide to R-CEOP for selected lymphomas, including why etoposide may be used and what to expect at home.

At a glance

Treatment	Rituximab + Cyclophosphamide + Etoposide + Vincristine + Prednisolone
When it may be used	R-CEOP is used in selected aggressive B-cell lymphomas, including when doxorubicin is unsuitable because of heart disease or another reason.
How it is given	Rituximab, cyclophosphamide and vincristine are given through a vein. Etoposide is given through a vein or by mouth, and you take the steroid by mouth.
Before you start	Tell the team about heart problems, past hepatitis B, infections, constipation, numbness and diabetes.

What this treatment is and how it works

Rituximab attaches to CD20, a marker on certain lymphoma cells. Cyclophosphamide, etoposide and vincristine are chemotherapy. The regimen includes prednisolone, a steroid.

When it may be used

R-CEOP is used in selected aggressive B-cell lymphomas, including when doxorubicin is unsuitable because of heart disease or another reason. Ask how the choice applies to you.

Before treatment

Ask about hepatitis B blood tests and medicines you will take at home.

How treatment is given

Rituximab and some chemotherapy are given through a vein. Etoposide may be given in different ways according to the plan. The steroid is taken by mouth. The first rituximab visit may take longer for monitoring.

Tests and monitoring during treatment

The team checks blood counts, liver and kidney function. If the lymphoma is bulky, ask about tests and medicines to reduce problems when many cells break down quickly.

Side effects

Common or more frequent side effects

- **Changes in blood counts.** Treatment can lower the white cells that fight infection, the red cells that carry oxygen and the platelets that stop bleeding. You may feel tired or get breathless sooner than usual. Let the unit know about nosebleeds, new bruises or small red or purple spots. Fever or shaking chills needs a call to the urgent number even if your next blood test is already booked.
- **Constipation and nerve symptoms.** Some drugs in this regimen can slow your bowel and affect nerves. Write down how often you pass stools, and tell the team about tingling, weakness or a change in your balance. Ask about a bowel plan if you already take medicines that contribute to constipation. With severe belly pain, vomiting or a swollen abdomen, call urgently.
- **Effects of steroid medicines.** A steroid may make it harder to sleep or cause changes in appetite, mood or blood sugar. Tell the unit if thirst or urination increases, especially if you have diabetes. Do not change the dose or timing on your own. Ask before treatment which symptoms should prompt a blood sugar check.

Other reported side effects

Report rash, chills or dizziness during a drip immediately. Tell the team if bowel problems or weakness interfere with daily tasks.

Serious effects to recognise

- **Reactions and reactivation of hepatitis B.** Tell staff promptly about wheeze, rash, shivering or faintness during a rituximab infusion. Tell the team about any previous hepatitis B infection so it can plan testing or prevention. Report unexpected yellow eyes or skin to the unit.

Severe infection and bowel blockage can occur. Call early for constipation with much more pain than usual, vomiting or a swollen belly.

When to seek urgent help

Call your hospital’s 24-hour cancer care number straight away for fever, shaking chills, unusual bleeding, severe belly pain or inability to drink. Follow your hospital’s written temperature instructions. If you have no written threshold, call at 37.5°C (99.5°F) or above, or below 36°C (96.8°F). Call if you feel very unwell even when your temperature is normal.

Seek emergency care for severe breathing difficulty, swelling of the face or throat, chest pain, collapse or bleeding that will not stop.

Practical advice for this treatment

Check what has been chosen for your heart

R-CEOP may be considered for certain lymphomas when an anthracycline such as doxorubicin is unsuitable. Tell the team about your heart tests, medicines and any new breathlessness or swelling. Ask which heart checks still need to continue and who will follow them.

Arrange the medicines taken at home

The etoposide schedule may include home capsules. Ask which days you need to take them, how they should be stored and what to do if you miss one. Keep the steroid schedule separately marked. Tell the team if you have diabetes, and ask whether steroid days need extra glucose checks.

Prepare for rituximab and vincristine

Tell the team about any history of hepatitis B so it can plan screening or prevention. Report chills, rash or breathing changes immediately during rituximab. Ask about a plan for constipation and tell the team early about numbness, weakness or poor balance from vincristine.

Medicines, interactions and vaccinations

Ask before taking antifungals, supplements, new pain medicines or vaccines. If an antiviral is prescribed, check how long to take it after treatment.

Everyday life

Keep a steroid and bowel plan. Make sure caregivers know the urgent number and what to do if symptoms start between visits.

Pregnancy, fertility and breastfeeding

Ask about fertility preservation, contraception and breastfeeding. Rituximab precautions can continue after the chemotherapy cycles.

After treatment

Ask when response will be checked. Keep appointments for any hepatitis B monitoring and tell the team if numbness or weakness persists.

Frequently asked questions

How does R-CEOP differ from R-CHOP?

R-CEOP uses etoposide in place of doxorubicin.

Why am I tested for hepatitis B?

Rituximab can allow past hepatitis B infection to become active again.

Can the first visit take longer?

Yes. The unit may give rituximab more slowly and monitor for reactions.

What should I do about constipation?

Ask for a prevention plan and report worsening symptoms early.

Is etoposide always given as a drip?

Some R-CEOP plans use a drip on one treatment day and capsules on later days. Check your written schedule and the medicine label. Call the unit if you miss a dose or vomit after it.

Why might I need extra blood tests after starting?

The team may look for changes in salts or kidney function as lymphoma cells break down.

Individual medicine guides

- Rituximab
- Cyclophosphamide
- Etoposide
- Vincristine
- Prednisolone

Sources and further reading

Read this guide alongside your hospital's plan. Ask your pharmacist to confirm the exact product dispensed in India and follow the instructions for that product.

Summary of Product Characteristics (SmPC) and prescribing information

- Rituximab (MabThera) - EU SmPC
- Cyclophosphamide injection - UK SmPC
- Etoposide infusion - Irish HPRA SmPC
- Etoposide capsules - UK SmPC
- Vincristine injection - UK SmPC
- Prednisolone tablets - UK SmPC
- Intravenous etoposide - US prescribing information

Additional sources

- BC Cancer study of R-CEOP in people unable to have anthracyclines

Editorially approved by Dr (Prof) Vijay Agarwal

Professor and Lead Consultant - Medical Oncology

Review record updated: 14 November 2026 · Editorial review policy